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SURGICAL IDENTITY PLAY:

THE ANATOMY LAB REVISITED

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ABSTRACT

The anatomy lab has been studied by sociologists interested in professional socialization since the 1950s. This is because the act of dissecting a cadaver is thought to be foundational for both the student's medical knowledge and the development of the student's professional identity. In this paper, I revisit the anatomy lab both historically and ethnographically. Drawing on theoretical insights from the laboratory ethnography tradition within science and technology studies, I show that students use material artifacts in the lab to support their "surgical identity play." This activity is structured by the laboratory's performative architecture even while it is unsupervised by anatomy faculty. While many analyses of professional socialization focus on how students learn to interact with patients during their training, I show that the anatomy lab experience is an important form of professional socialization because here students learn to employ surgical instruments, language, and dress, and begin to relate to each other as colleagues.

Keywords: identity play, medical education, professional socialization, social psychology, space and place

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INTRODUCTION

Cadaver dissection is one of the canonical rites of passage that marks the medical student's status transition from layperson to doctor. The cadaver experience is significant to the medical community because it is the first setting in which the medical student takes on the role of the doctor, a role that is implied by the cadaver, lying supine on a metal table in the position of a patient. The image of the cadaver as "first patient" (Coulehan et al. 1995) is highly nostalgic and evokes an era in United States medical education when students had little experience with death or patients' bodies; the cadaver was often the only patient-like body they had access to until their third-year hospital rotations began. For this reason, the gross anatomy course has often been investigated for the implications for future bedside manner when the first patient is a cadaver.

Gross anatomy is the study of anatomical structures visible to the naked eye, as contrasted with histology, the study of micro-anatomical structure (arrangements of cells). Gross anatomy involves cadaveric dissection, learning with plastic models and already dissected cadaveric specimens ("prosections"), as well as referring to anatomical atlases and x-ray films to learn bodily structures. For a long time, what made the cadaver experience stand out was that what happened in the lab happened nowhere else during the first two years of medical school:

intimate access to a human body. In contemporary medical education, however, the primacy of the cadaver as first patient has been destabilized by other "first patients" in the medical curriculum: standardized patient actors, living patients with anatomical anomalies, and actual clinic patients. This paper explores what *does* happen in the contemporary anatomy lab if the first patient has been displaced.

Whereas anatomists and physicians have a poetic and agentic image of the cadaver as a gift of knowledge to students, sociologists have taken a different tack; although some take the cadaver experience and students' reactions to it at face value, many look for the consequences for medical practice that are implied when the culturally prominent "first patient" is a dead one. In several past analyses, sociologists concluded that dissection taught students to control their emotions in front of patients, to be able to handle death, and to control their emotions in front of their peers (Hafferty 1988; Lief and Fox 1963; Smith and Kleinman 1989). In 1963, Lief and Fox published what has become the dominant way of understanding the cadaver experience. They found that one of the outcomes of medical students conducting autopsies was the development of "detached concern," a dispassionate demeanor that students effect to maintain emotional control over themselves and their patients so that they can be effective, yet compassionate, caregivers in emotionally heightened situations. Much of a doctor's persona is wrapped up in the ability to remain calm in front of the patient during trying situations; moreover, the asymmetry of an active medical student and a silent (here, dead) patient evokes the asymmetry of the doctor-patient relationship, which was at its height when Lief and Fox were in the field.

A similar focus on social psychological aspects of socialization was taken up by Hafferty (1988) in his well-known study of "cadaver stories," urban legends told by medical students that feature strong protagonists, weak victims, and unsanctioned uses of cadavers and cadaver parts. In his work, the encounter with the cadaver has two dimensions: it is reflective of the relationship the student will have with future patients, and it is thought to be a harrowing, even traumatic, encounter with death and dying. Hafferty could only speculate about what the cadaver stories might mean for the students later when they would become practicing clinicians, but the implication was that if students were socialized in the lab to understand cadavers as medical tools, they would find it easier to restrict what was happening to their patients to the same emotionally neutral domain.

In contrast, Becker and colleagues ([1961] 2007) took the matter-of-fact perspective that they used to understand medical education in general and applied it to the anatomy lab. While they reported initial student anxiety about dissecting cadavers, Becker et al. took the students at their word when they reported utilitarian and neutral feelings about dissection after the initial anxiety passed. In a related paper, Becker and Geer (1958) found that the cadaver experience is important because dealing with a cadaver allows medical students to feel membership in the profession as they begin to deal with the unpleasantness of a doctor's duty to a patient.

More recently, Lempp (2005) concluded that the focus on emotional socialization in the lab has been too narrow. She found that cadaver labs allow students to practice clinical skills and learn valuable anatomical knowledge, and that a narrow understanding of anatomy as

"emotionally grueling" should be reconsidered in light of her students' positive experiences. This echoes Sinclair (1997), who found that cadavers grant students medical status because they take on the role of patient that legitimates the students acting like doctors. Furthermore, because medically qualified "demonstrators" (teaching assistants and faculty) are present in the lab, students have a chance to talk with them about medicine in general, and thus feel more a part of the professional community. Sinclair further found that certain practices in the lab mimicked those from the wards, specifically things that would orient students to the status and hierarchy of clinical teams, like being "put on the spot" during mock rounds.

Because the lab has traditionally been a place to learn emotional control in the face of death, there are powerful historical warrants for revisiting the lab. The observations I share in this paper took place in a traditional anatomy environment and are comparable with descriptions in past studies (Becker et al. [1961] 2007; Hafferty 1988; Lief and Fox 1963; Sinclair 1997). Because the anatomy lab I encountered was so similar to anatomy laboratories I had read about in the literature, I expected to find some of the things other researchers had found before. When I went to the lab, however, the things past researchers had observed—the development of detached concern, cadaver stories, and a preoccupation with emotional control—were not salient. I also did not observe the type of intense teaching and close student – teacher relationships that Lempp (2005) noted or the types of structured hospital-esque question and answer practices and "rounds" that Sinclair (1997) observed.

Instead, I found that medical students no longer develop their primary relationship to their future patients when they interact with their cadavers. Despite the ubiquity of the first patient discourse, the cadaver is no longer the sole "first patient" medical students encounter. Today students in the US learn to relate to patients from live patient-actors (simulated patients), as well as from clinic and demonstration patients beginning in the first year of training. When interacting with patients, medical students learn to be representatives of the profession in the eyes of the public. And yet, they still spend many hours in the anatomy lab working with the other patient body of the cadaver. What, then, is the role of the anatomy lab experience in contemporary professional socialization processes? I found that instead of using the cadaver to learn about their identity with respect to patients, the students actually harness the infrastructure and material trappings of the lab setting to play with potential future identities as surgeons and colleagues.

Recent work has discussed the relationship between anatomy teaching and surgical training (Prentice 2007, 2012). This approach links with a larger literature on surgical training (Bosk [1979] 2003; Doyle and Roen 2008; Hirschauer 1991; Katz 1981). These approaches are oriented to the embodied practices of surgeons (e.g., Prentice 2007) and the rituals of the operating room (e.g., Katz 1981). As I show below, evidence of these practices and rituals can be seen in students' surgical "play" in the lab.

Play is an important means by which people explore new identities. In a recent paper, Ibarra and Petriglieri (2010) theorize the differences between identity work and identity play.

Both are important phenomena for understanding the process of identity change that takes place in professional socialization. Whereas identity work is "acting out and looking [the] part, so as to be granted the claimed identity" (2010:12), the authors define identity *play* as "people's engagement in provisional but active trial of possible future selves" (2010:11). Identity play takes place in liminal places, is a rehearsal for potential future situations individuals might find themselves in, and is oriented to means rather than ends (2010:12-13). In this paper, I take up identity play as a central concept for understanding activity in the contemporary anatomy lab. Building on Ibarra and Petriglieri, I theorize identity play through a symbolic interactionist lens, focusing on how material and linguistic artifacts can be used in interaction to enact new identities.

One reason why it is important to investigate play in the anatomy lab is because students' surgical play is aspirational—the linguistic and sartorial trappings of surgery are culturally prominent and prestigious within medicine. As in other parts of the socialization process, language use is important in the lab. But while medical students are all but prohibited from using jargon in front of patients, there are no patients in the lab and students can use jargon freely. Furthermore, the material environment of the lab itself has a performative architecture (Stephens, Atkinson, and Glasner 2008) that supports the students' "surgical play" because it is stocked with surgical artifacts. Focusing on the linguistic and material aspects of lab activity allows us to see that the lab is a place imbued with social relations that are brought to life through play (Fine and Corte 2017).

METHODS

The data presented here were collected through ethnographic observation of instructors and students in a gross anatomy course at West Coast Medical School (WCMS), located at a university in California. The larger study these data are taken from is an ethnographic investigation of the professional socialization of medical students stretching from 2010 through 2014, but this paper draws only from observations and interviews associated with the first-year gross anatomy course.

Curriculum Change at West Coast Medical School

The broader rationale for conducting an ethnography of medical education at West Coast Medical School was that the school was implementing a new curriculum and I wanted to see how the faculty was choosing to respond to contemporary internal and external professional pressures by reshaping the learning environment and curricular content of the MD program. At West Coast Medical School, the most visible change was the reorganization of the preclinical curriculum (the first two years of medical school) from discipline-based to organ system-based courses, including a drastic reduction of lecture time (by approx. 50%) and the addition of a longitudinal problem-based learning course. The second major change was the emphasis on early patient contact and integrated professional skills training. When West Coast Medical School undertook this curriculum restructuring, administrators at the school told me that they were regarded to be one of the last medical schools in their tier to make this change.

Both of these curricular changes impacted the gross anatomy course and what the students learned there. First, when the curriculum was organized around organ systems, anatomy (a classical discipline of medicine) became redistributed across each organ system "block." As an outcome of this change, there was less anatomy material per organ system exam, since it had to share space with the physiology curriculum. Second, curricular time was taken away from the lab and redistributed to lectures and other learning exercises. Third, while the anatomy faculty remained masters of their domain, the lab itself, they had to answer to the course directors of each organ block for everything else. Finally, in the process of the curriculum change, the first- and second-year anatomy courses overlapped for several weeks, putting significant strain on the faculty, TAs, cadaver donation program, and lab infrastructure. In addition to standardized patient actors undercutting the significance of the cadaver as the first patient, the curricular reorganization delivered a symbolic blow to the anatomy faculty.

The rationale of the medical school administration was that West Coast Medical School had taken specific steps to shore up its curriculum to match not only that of other medical schools, but also to more closely match the types of situations the students would be in during early practice, including learning how to work with participatory (awake) patients. A first patient who is a cadaver does not offer opportunities to learn and practice the complex communication skills that are essential to the practice of contemporary medicine. In the lab, however, students could practice their doctor-to-doctor communication skills.

Data Collection and Analysis

Before the course began, students were sorted into teams of five or six students based on their height. This was because the tables were set to different heights so that students could peer into the cadaver for long periods of time without straining their backs. There were two large rooms with cadavers, which became known as the "tall room" and the "short room" because of the team-height organizational system. On the first day of the course, I joined the team of one of my same-height primary informants. Because we were of medium height, our group was composed of three men and two women, not including me. Each session followed a similar rhythm: students, dressed in scrubs, would troop down to the lab, don plastic aprons and latex gloves, uncover their cadavers, and work through the lab manual's instructions for that day. Occasionally we watched videos that demonstrated dissection technique, but the majority of the time was spent unmediated, carrying out dissection with scalpels, forceps (which look like large tweezers), hands, and scissors.

During each lab session I was a non-dissecting participant observer and member of my team. Because the dissection tables were placed so closely together, I was also able to observe the activities of and participate in conversations with students at the neighboring five tables, as well as watch from a distance what was happening across the room. I participated in discussions, dressed in scrubs, and did everything the students did, but I did not dissect. This was one of the conditions for my observation, since the bodies in the lab were specifically donated to the school, and the body donors had only consented for medical students to dissect them. My immersion in the lab environment gave me the freedom to ask questions of the students and faculty, and to

become a member of the team; I, too, was teased by my teammates for missing the occasional lab session.

During the months the anatomy course ran (from early fall until late spring), I joined my group at most lab sessions and anatomy lectures. The teams spent approximately four hours per week in the lab, usually divided into two sessions, and worked on the same body for the duration of the course, with the exception of the neurology unit I describe near the end of the paper. I took field notes during and after the lab sessions, interacted informally with students, TAs, and faculty in the lab, interviewed medical students about their experiences in the lab, and interviewed the two faculty directors of the anatomy lab course. The data were compiled and coded thematically as part of an interpretive approach to analyzing ethnographic field observations.

The Emotional Impact of Studying the Anatomy Lab

Investigating potentially emotionally charged spaces where taboo activities are undertaken requires that the ethnographer account for her own experience of the space and activity (Coffey 1999; Kleinman and Copp [1993] 2011). Indeed, as a researcher I was not immune to the emotional experience of being in the lab, even though I did not personally participate in dissection. I was not often uneasy during dissection, but there were certain sessions, such as dissection of the hand and parts of the leg, that I could not witness. On these days, I left the lab and was unsettled. I found that students were more aware of my status as a relative outsider when we were in the lab, and some assumed that my emotional reactions would

be stronger than theirs—these students frequently asked how I was doing during the early sessions. During the second lab session, I recorded my reactions:

> To be fair, I found the first 30 minutes of lab to be absolutely disgusting. I felt lightheaded, so it was convenient that I needed to step out into the hall to write notes anyway. However, when I stepped into the hall to recover from the bright lights, smell of formalin, and egg yolk-yellow of adipose tissue, I was confronted with the smell of someone's microwaved lunch: beef stew. (Fieldnotes, 09/30/2010)

On the day that we came into the lab to find that the cadavers had been sawn through the middle of the pelvis to expose the lower abdominal structures, I saw two students notice me from across the room; my face must have betrayed my reaction because they were laughing at my surprise. These examples aside, I was mostly taken for granted in the lab, especially as the students became more attentive to their dissection and learning the anatomical structures, leaving me able to focus on the activities of those around me.

GOING TO THE LAB

Lab Space as Liminal Place

The anatomy lab can be described as one *liminal place* where the status transformation from novice to provisional member of the medical community takes place. As conceptualized by Gieryn (2000:465), a place is "a compilation of things or objects at some particular spot in the

universe" that, in addition to its materiality, is "also interpreted, narrated, perceived, felt, understood, and imagined." Liminal places are located between established social structures, and to access them, one must pass through boundaries or barriers (Stephens et al. 2008). In liminal places conventional social forces are suspended so that initiates can leave behind one social identity and undergo the status transformation that will allow them to take on another role in their community (Turner 1967). Liminal places are also locations of identity play (Ibarra and Petriglieri 2010). However, activity in liminal spaces is often guided by elders—initiates undergo formal instruction in the traditions and origins of their community. In the liminal place of the lab, medical student initiates had room to play with the new identities that attending medical school made available to them—the lab was unique among all other settings where medical education took place because it was a largely unstructured space. Faculty members were generally aware that students exploited homologies between anatomical dissection and surgery, but the extent to which faculty members supported this (pedagogically or practically) was mixed, as I will discuss below.

One of the things that makes the anatomy lab a liminal space is its physical separation from other school activities. Generally, across medical schools, access to the anatomy lab is restricted to those currently taking the dissection course in order to protect the cadaveric remains.[2] Visitors are not allowed, and the door is locked and only accessible with keycard or

[2] Cadaveric remains are valuable and may be stolen and sold for profit, a source of scandal for a similar medical school.

access code. At WCMS, the anatomy lab was hidden away in the basement of an older laboratory building. The paths to reach it were circuitous—even seeming to magically appear— and the routes were not clearly explained to the students. This led to some confusion on the first day of the lab course:

> Today was the first day of anatomy lab. When we left the auditorium after two hours of biochemistry lecture, we didn't know where we were supposed to go, what we were supposed to do, what we were supposed to wear, and when we were expected to be in the lab. Luckily some of us remembered that the lab was in the basement. We trooped down the stairs to the lower level, but immediately hit a dead end: a small entryway with one armed security door and an elevator. We were about to go back upstairs when one student told us that he knew the way because he had done the med school prep course over the summer and they had worked in the labs. He called the elevator, pressed the "basement right" button, the other set of doors opened and we walked through the elevator like a secret passage to the other side. The basement hallways were a labyrinth, and we wound around until we found the locker room. We changed into scrubs and clipped on our nametags and began to look for the lab. I overheard the students saying that they didn't know what to do, that they were confused and that they wished they'd been given more information. (Fieldnotes, 09/23/2010)

Like other spaces such as animal houses, anatomy laboratories are considered "out-of-sight" spaces (Stephens and Lewis 2016:211). The architecture of the spaces as well as the routes to find them lend symbolic weight and structure to the activities that are performed in them, a notion developed as performative architecture (Stephens et al. 2008; Stephens and Lewis 2016).

Once in the lab, students quickly established an interaction order (Goffman 1983) characterized partly by humor. In our lab team, joking and teasing permeated even the most emotionally charged and nauseating moments without veering into the darker humor characterized by "cadaver stories," urban legends about unsanctioned and disturbing misuses of cadavers reported by Hafferty (1988). The humor served various purposes: diffusing tension, managing the pace of identity change, drawing attention to the absurdity of cadaver dissection and other lab activities, and managing the professional hierarchy. Much of the humor in the lab, therefore, was related to managing the strangeness of committing taboo acts in a mundane way. Here, the interactional work of maintaining the taken-for-granted context of the encounter (what Mehan and Wood [1975] describe as "reality work") often gave way to "reality play": "events which conjure paradox by trifling with background expectancies rather than negating them outright, or ratifying them as literal conduct" (Flaherty 1984:75). Thus, when I went to the lab, I found a liminal place with an architecture that supported play activities in a social situation that was often managed by drawing on humor.

Initial Emotional Reactions

As discussed above, the dominant impression for most studies since the 1950s was that the lab course was an emotionally difficult experience for the students. Despite the increase of media exposure to bodies and gore, it would be unrealistic to assert that the medical students did not experience any apprehension about dissection. As is evident in the following excerpt from my fieldnotes, there was quite a bit of apprehension on the first day of dissection that was eventually defused with humor:

> Speaking over a dinky home karaoke microphone, the professor told us that we could go ahead and uncover the cadavers. Our cadaver was an elderly woman, thin but not emaciated, and very petite. The students immediately remarked, both to themselves and to me, she "just doesn't look like a real person." This was understandable, as the cadaver had stiff looking, pale skin. Her face was covered, and remained covered for the entirety of the course, with a black plastic bag.
>
> The students in my group looked at the cadaver and talked. They never stopped talking, but it was space filling logistical talk (finding the printout of the labs, getting the tempera paints set up for the lab exercise, and so on). No one touched the cadaver and no one seemed to want to be the first one. After a minute or so, they needed to get started. Still, no one wanted to be the first one to touch the cadaver. One of the guys tried to guide another guy's hand to the cadaver's arm.

> They gently played around, and the student being "guided" to touch refused, but didn't act repulsed. One of the women announced, "okay, I'm touching, I'm touching" and she put the tip of her finger down on the cadaver's arm. Then the first student touched the cadaver and told his friend, "it feels just like you!" His friend replied, laughing, "don't say that!" That seemed to break the ice and the students all began touching the cadaver. (Fieldnotes, 09/23/2010)

Similar to courses at other medical schools, some "humanistic" touches had been incorporated into the anatomy experience, specifically a body-painting exercise on the first day. This exercise was designed to help students become comfortable with the cadaver and to align external anatomical landmarks with internal anatomical structures by drawing on the cadavers with tempera paint. Despite such exercises, more traditional aspects of the anatomy lab experience persist. One of these is the students' mutilation of the body as precursor to accessing deeper structures and organ systems. The best example of this is major cuts to the skeleton, which are necessary at different points in the course. Students no longer used a saw to cut their own cadavers through the midsection to expose the pelvis, as was common practice in the past (see the discussion of Michael Crichton in Dyer and Thorndike 2000). This was done for them later in the year by the faculty when it came time to dissect pelvic structures and organs. The most brutal mutilation of the body the medical students were personally required to carry out was to remove the front of the ribcage (the chest plate) with a large pair of garden shears. This they were asked

to do on the second day of lab, when their discomfort with the cadaver and the notion of dissection was still heightened. Once the initial adjustment period ended, lab activity became for the most part mundane and students began to attend to other salient features of the lab in addition to the cadaver. This was when they began to explore the artifacts contained in the lab and use them to construct social relations to each other that I characterize as *surgical identity play*.

SURGICAL IDENTITY PLAY

Previous work has theorized play and fun as they relate to social group formation and individual identity change. Fun is considered to be a property of groups, not of individuals, and having fun together can increase an individual's sense of belonging in the group and reinforce the cohesion of the group itself (Fincham 2016; Fine and Corte 2017).

Play, as well as related phenomena of fun and humor, have been attended to in other analyses of professional socialization. An important example is Underman's (2015) work on medical students working with gynecological teaching associates (GTAs). Underman examined how trainees learn new skills and how this shapes their identities via the inculcation of the medical habitus. Underman conceptualizes "playing doctor" as valuable because it is a rehearsal for real life practice. The GTA encounter is space that is emotionally comfortable for exploration, similar to the anatomy lab; however, the ultimate goal of "playing doctor" with the GTA is to internalize the skills of the pelvic exam (both technical and professional) so that they become part of the medical student's developing professional habitus. Moreover, once the students develop these skills, their resulting habitus is a property of their individual self (despite

the fact that it is shared with other medical professionals). This is ultimately unlike the lab, where play is much more open-ended, not designed to develop a specific professional habitus, largely without consequence, and ultimately about the social relationships between peers rather than between a doctor and a patient. A more similar analysis of play comes in the form of Hafferty's (1988) medical students who shared cadaver stories while dissecting. The morals of these stories developed a peer culture in the lab that shaped the emotional socialization process of the medical students by portraying emotionally strong pranksters as funny and well-liked and emotionally sensitive medical students as weak and potentially unfit to be doctors.

Goffman (1961) identifies similarities between games and real life by seeing both as "world-building activities." In play, the possibilities are more open than in real life, and both identity play as conceptualized by Ibarra and Petriglieri (2010) and reality play as conceptualized by Flaherty (1984) point to this as being a centrally important aspect of play. However, a notion of identity play as "people's engagement in provisional but active trial of possible future selves" (Ibarra and Petriglieri 2010:11) has not yet become widely incorporated into analyses of professional socialization. Beginning this new theoretical development in the traditionally serious setting of the anatomy lab may seem curious, but my observations of the lab as a social space show that it is a significant place for identity play within medical education. I have begun to outline some of the important attributes of the lab above: unlike many other settings in medical education, students are largely unsupervised in the lab; the lab is stocked with props for

doing identity play; and the typical activity in the lab is less oriented towards evaluation than other settings.

Below I discuss elements of the lab setting that make it a playful space and show how the material and sensory environment of the lab space channel students' play towards enacting and experimenting with surgeon identities. Laboratory ethnographies in science and technology studies have attended to the sensory aspects of working in laboratories, helping us understand how sound and hearing, smell, and other attributes of the lab space shape the activity in these spaces (Mody 2005; Stephens and Lewis 2016). Borrowing these approaches promotes understanding of the pertinent similarities and differences between the anatomy lab and the operating room, as well as comparisons between the professional aspects of working with awake versus dead patients. These theoretical resources provide insight into how the medical students were able to take up play activities rather than serious work activities during dissection, and how this opportunity to play shaped their professional socialization.

The Different "Doctoring Work" of Dissection and Standardized Patient Exercises

One pertinent question is why students could play in certain settings, like the lab, and not in others, like the standardized patient encounter. In standardized patient exercises, first-year students must wear a white coat and an ID-badge, they must adhere to a general template for history taking and speak in terms intelligible to the patient, they are closely surveilled by the faculty instructor, and they rarely touch the body of the patient. These attributes structured the interaction in ways that restricted the students' freedom to play with their identities as doctors—

standardized patient exercises are identity work (Ibarra and Petriglieri 2010) because the students are evaluated in part on how well they enact the claimed identity of physician. Thus, in the standardized patient encounters I observed, students were hesitant to wear the white coat and take on the identity of doctor.

In contrast, students in the anatomy lab did not shy away from taking up clothing, language, and practices that announced them as physicians. They were not as hesitant to wear scrubs in public as they were to wear their white coats (Vinson 2019), and there was never a struggle to get students to wear scrubs to do dissection, whereas there could be a struggle to get students to wear a white coat and a badge during standardized patient exercises.

Talking with patients—even patient actors—is difficult because the patient-actors can talk back. Further, medical students must speak plainly with patients, and medical training teaches and evaluates this skill (Underman 2015). Cadavers do not talk back and the dissection *per se* is not evaluated; only the students' anatomical knowledge is tested. Moreover, although the students sometimes relate to the cadaver on a personal level, this is not cast in oppositional terms to relating to the cadaver as a patient. This differs markedly from standardized patient exercises, where students lament their inability to (or state their unwillingness to) talk like doctors and announce that they just want to talk to the patients "like real people."

In his research on the operating room as a social space, Hirschauer (1991) described the "gestalt switch" anesthesiologists cause in the patient, taking him/her from waking to sleeping. He notes how the discourse of the operating room and the activities that take place there abruptly

shift as soon as the patient has gone to sleep—the patients are no longer "talked with," but "talked about" (1991:288). In our lab, this was the dominant mode. When patients are not awake, surgeons are free to use collegial language to talk to one another—this is the use of medical jargon. Students rapidly assimilate to medical jargon in all areas of their medical training, but they are permitted to use it in very few settings. It is desirable to use jargon because it is a very obvious way to talk "like a doctor." As I discuss further below, the anatomy lab *qua* operating room allows students to use high-status jargon in a setting resembling patient care, and this stands in stark contrast to standardized patient exercises, where they must communicate with patients on the patients' lay terms.

Although they develop the vast majority of their clinical skills in the Clinical Practice (doctoring skills) course, students do learn a bit about bedside manner with their cadavers. For example, students display a basic orientation of care towards the cadaver: many were careful to clean up the remnants of dissected tissue at the end of each day, and some even wiped down the tables. This sometimes explicitly invoked the personhood of the patient, saying things like "Hey, let's clean her up and leave her nice." Students also used one of their extra cotton sheets to drape across the cadaver's genitals, in much the same manner as patients would be draped to protect their modesty. (This also served to protect the students' modesty.) Bedside manner was also from time to time demonstrated by the lead professor, who occasionally patted the cadaver on the shoulder and made a comment directed to it. However, this was not always the case, as the same

professor also used the cadaver's forehead as a flat surface upon which to rest a dissected heart during an impromptu teaching session.

Using Lab Artifacts in Surgical Play

Many things about the material setting of the lab resemble an operating room, and students exploit this homology in their play. But there are aspects of the lab that distinguish it from the operating room and keep the space from becoming too realistic. One of these is the unmistakable sensory environment of the lab; it has a distinctive smell that betrays the difference between an anatomy lab and an operating room. The smell was a frequent topic of conversation as students passed on the received (but unsubstantiated) wisdom that the smell of formalin was an appetite stimulant. The students used this understanding as a way of explaining and excusing the frequent comparisons they made between the cadaveric remains and food:

> They began to examine the heart, removing large chunks of coagulated/embalmed blood. They were fascinated by the dried blood. One student said that it reminded him of pig's blood from the Asian grocery store, and another student said it looked like chocolate. This was the second food comparison of the day (the first was that heart muscle looks like chocolate), and this prompted one woman in the group to say jokingly that chocolate and steak were two foods that she couldn't eat anymore. (Fieldnotes, 10/19/2010)

> I overheard the students at the table next to us talking. The man must have said something about a particular piece of tissue, because the woman holding the tissue with her forceps said, "Now I can't eat shredded beef anymore!" (Fieldnotes, 01/13/2011)

> One student, holding a dry preparation of a spinal cord, said, "This looks like corn husk." Another student said, "Can we stop comparing it to food?" The group laughed. (Fieldnotes, 02/17/11)

In addition to the lab smell prompting food comparisons, the formalin made the students' eyes sting and water. This became more intense when students first opened the chest cavity. There were times when students would stand at the head or foot of the table to get some distance, and the labs had constantly running fans. The smell, the humor about the smell, the pain of the smell, and the constant whirring of the fans weakened comparisons between the anatomy lab and the operating room.

Nevertheless, the students negotiated the attributes and material artifacts of the lab and often concluded that the lab was a "good enough" (Lewis et al. 2012) substitute for the operating room. The cadaver was a site of negotiation, because it was "simultaneously *like* and *unlike*" (Lewis et al. 2012:778) a surgical patient. On the one hand, the cadaver took on attributes of the type of anesthetized patient one would find in an operating room. On the other, as I mention in

the following section, lab teachers reiterated the differences between cadaveric and living tissue to remind students that they should not make any assumptions about how they would perform on their surgery rotations based on their experience with dissection.

The *likeness* of the lab to the OR was that the lab was stocked with useful artifacts that the students could repurpose during their surgical play. Several salient artifacts that supported surgical play included masks, scrubs, gloves, tools, and assistants:

> On the way back into the room, students started getting masks, which had been laid out on the counter, and putting them on. A few had gotten masks before the video, and those who hadn't mostly got them afterwards. (After donning a mask, most of the students were also wearing scrubs and name badges, and all of them were wearing plastic aprons and gloves). One of the women students, who had just taken a turn dissecting, told me, "Now I feel like a surgeon—people are doing things for me." This was because another one of the students had fetched her a mask and tied it onto her face while she was dissecting (she couldn't have done it for herself because her hands were busy, and also because she was gloved up). What was funny and went without comment from the instructors, but with some teasing among the students, was that at least half of the students had put their masks on inside out (with the blue part facing outward and the white part facing inward). Those who were wearing their masks backwards brushed off the teasing, saying things like, "Dude, who cares?" (Fieldnotes, 09/30/10)

This is an example of leveraging high status clothing, which, like language use, was a way that the students marked themselves as doctors. They were further marked as doctors when other colleagues did something for them, like tie on a mask or gown. Ironically, many of the students got it wrong—they wore their masks inside out. Teasing, in this example, was similar to other forms of humorous peer policing in this cohort; it served to regulate the pace of professional identity change by calling out students who deployed professional artifacts to make illegitimate status claims (Vinson 2019). Further evidence for the primarily symbolic use of the masks is that they did not, in fact, keep the smell of formalin out, which is what the students originally thought they would be useful for. While the masks could protect the students' lower face from splashing fluids and bone shards, these were not risks in every lab session.

Another likeness between the lab and operating room was that there was a division of labor within teams that somewhat mimicked the division of labor in the operating room—some students mainly "cut" while others monitored the instructions or referred to the anatomical atlas. The division of labor in the cadaver lab tended to follow surgical interest (those who were more interested in surgery or working with their hands did the dissection, those who were not read from the anatomical atlas or the lab manual, and those who were altogether disengaged could be found off at the computer looking up material or studying—this was uncommon). Finally, students borrowed other social relations from the realm of surgery: when they joined a crowded neighboring table to watch one of the professors teach or demonstrate dissection, they wedged

their way in using a technique they called "surgeon elbows." As students employed these objects and practices in the activities of the anatomy lab, they were playing with surgeon identity as one possible version of their professional future.

The Language of Anatomy vs. the Language of Surgery

A further salient issue in the lab was the language of anatomy. An intriguing finding was that there are two sets of jargon used in the lab. One is surgical eponyms, used by surgeons, and the other is "proper" anatomical terms, used by anatomists. The anatomy faculty members at West Coast Medical School were dedicated to "stamping out" the use of eponymous terms, which are anatomical features that are named after the person who discovered them. (For example, the "circle of Willis" is an eponymous term for the cerebral arterial circle.) In interviews the faculty members explained that this was because the eponyms did not have an easily discernible meaning to those not initiated into the culture of surgery, so they wanted the students in their general education to use Latinate and Grecian anatomical terms—those found in the volumes of the *Nomina Anatomica*. The Latinate and Grecian terms tend to be literal descriptions of features, for example, the *locus ceruleus* (dark blue place) in the brainstem, or features named for their proximity to other anatomical regions or features (e.g., peritoneal pouch). As one of the faculty members explained to me during an interview:

> Surgeons love eponyms. [The other anatomy professor] and I believe that one of the reasons doctors and surgeons particularly love eponyms is because it's sort of

> a code. It's a way of—I don't know what it is, but it's a sort of a code for communication that is sort of closed to the general public and even closed to maybe even other doctors who are not so much in the anatomical surgical disciplines.

By using eponyms in lab, students could invoke the professional prestige of surgeons, but the anatomy faculty did not want them to talk this way. However, the anatomy faculty's efforts were limited by the social context the students would encounter during third- and fourth-year surgical training. As this faculty member continued to explain:

> We recognize [eponyms are] in wide usage so we don't want our students to be caught flat-footed by not knowing the name, but the pouch of Douglas, everyone calls it the peritoneal pouch. It's a certain region. [...Or] it's like Fallopian tube, I don't know. It's probably... it may be as benign as a habit that just won't go away. One surgeon says it to another. Surgery is so hierarchical that you would never have a fourth-year medical student holding a retractor correcting their *doctor professor* when he's doing a Whipple and telling him "No, it's not the Pouch of Douglas, it's the peritoneal pouch." [*Imitating hypothetical student*:] *You mean the peritoneal pouch, esteemed doctor?* There's a pecking order, especially in surgery, that makes change very difficult. Change comes slowly to some disciplines, surgery especially.

The anatomy faculty could not enforce their no-eponym policy because of lasting preferences for eponyms among surgeons and their desire to not let their students get caught "flat footed" or violate the hierarchy of medicine by correcting a higher-up. Here, the professor uses humor to draw attention to the absurdity of violating this hierarchy by speaking archly as he imitates the hypothetical student. In this way, the practice and culture of surgery filtered down into the lab, and students used this type of language in their communications with each other. The type of language students used in the lab matters: language acts such as using jargon are acts of identity (Tabouret-Keller 1997), and by using surgical eponyms in the lab, students supported their aspirational, identity-based surgical play.

Change the Setting, Change the Type of Play

While cadavers no longer need to be suitable stand-ins for living patients, since there are plenty of models of these in other parts of the curriculum, they are still useful surgical patients—especially when surrounded with other artifacts from the operating room. Because it is a "good enough" substitute for an operating room, the lab setting is crucial for allowing the students to feel that they are authentically playing surgeon. As a case in point, if the lab setting changes, as it was changed during the Neurology course (from dissecting cadavers on stainless steel dissection tables to activities where students worked with models, prosections, and samples while sitting at low tables in child-sized chairs), the students no longer felt like surgeons—they reported feeling like children.

> The tables and chairs that replaced the anatomy tables were child-sized and I immediately felt like I was in an elementary school classroom. [...] Bonnie commented that this lab set-up reminded her of kindergarten. Ken said that it was like elementary school. [...] Another woman came over and we worked with the model eyeball. After that, we joined the table next to us to work on the anatomy of the ear. A TA led the review and used a model ear that was comically large—as long and wide as his torso. One of the students remarked, "I feel like I'm at science camp." (Fieldnotes, 02/08/2011)

The surgical tables, gloves, scrubs and cadavers *matter* (Lewis, Hughes, and Atkinson 2014) for making the students feel like doctors: the material setting of the lab enables their surgical identity play, and the significance of the setting is highlighted by the way students instead compare themselves to children when the setting is altered. The childlike feeling evoked by playing with oversized sensory organs struck the students as absurd, leading to humorous and lighthearted exchanges as a way of managing this strange social situation.

THE PROFESSIONAL IMPORTANCE OF SURGICAL PLAY

Although students are not expected to develop actual surgical competencies in the lab, they are expected to learn anatomical features and structures. Faculty members continually reminded students that cadaveric dissection enabled surgery by providing knowledge about

anatomical structures, but that the cadaveric tissue itself was so different from living tissue that students should not mistake dissection for surgery. Because anatomists think of surgery and dissection as distinct, the clinical play I observed, in which medical students enacted significant and strong parallels between dissection and surgery, diverged from faculty understandings of the body and was dependent on the students' unmediated access to the cadaver.

In previous sections I have described how documenting the context and nature of surgical play in the anatomy lab can shed light on curricular changes and the increasingly specific role of the cadaver in students' professional socialization. In contrast to past studies, students' overwhelming professional task in the lab appears not to be managing their emotional state and becoming comfortable with death. Rather, students use this largely unstructured time to do identity play using the affordances of the lab setting to try out provisional selves (Ibarra 1999). In this sense, the lab drags the operating room into the preclinical years. It thus makes sense to return again to literature on surgical training to think through specific professional implications of surgical identity play.

Insofar as moral errors are reprimanded more harshly than technical errors among surgeons (Bosk [1979] 2003), it could be that beginning the *moral* training of surgery in a setting where technical skill is not a matter of life and death is one important way that the anatomy lab experience prepares students for future surgical work. Or perhaps it is as Prentice (2012) describes: the cadaver approximates the patient so as to allow the training of *social* surgical skills in the approximated social matrix of the operating room. In the lab at West Coast Medical

School, building a technical skill set relevant to surgery is not the primary purpose of dissection; students learn anatomical dissection technique, which differs slightly in ways they don't always like to acknowledge, such as frequently using the fingers to "blunt dissect" (tear or separate) tissues.

As I have shown, it is the relationship between the medical student and their potential future self as a surgeon (and future self as a third-year surgery clerk) that is played out in the anatomy lab. Drawing from stereotypical images of surgeons informed by media and medical experience, and supported by the surgical artifacts in the lab, students try on surgeon identity. This is one of the most accessible medical identities because it is so marked by clothing, language use, and hierarchy. When the students play surgeon in their dissecting teams, they are imagining themselves as surgeons and treating their peers as their colleagues, in line with their impressions of how things work in an actual operating room. Taking the material setting of the anatomy laboratory into account as a *performative architecture* helps to draw out the different aspects of this play—the anatomy lab is much more than the psychological reckoning with death and patienthood it was previously thought to be.

CONCLUSION

In this paper I have shown that while the cadaver legitimates the self-fashioning and identity play that happens in the anatomy lab, the lab may no longer be a space where students learn to relate to patients. Instead, due to curricular revisions following from broader changes in medical practice, students learn how to interact with their patients on a new "first patient," a

standardized patient actor. In interacting with the standardized patient actors, the medical students are socialized as clinicians (Underman 2015). In the lab, students are socialized as colleagues to one another. This overall shift in socialization experiences is an indication of a larger trend in medical education: that of shoring up medical education to match the environment of professional practice (Vinson 2015). In medical education, curriculum change indicates how the medical profession adapts to keep up with broader professional and cultural change.

What then is the role of the anatomy lab experience in developing the subjectivity of the novice professional? What is the warrant for revisiting the lab? Just as medical students need training in how to craft their public professional demeanors by interacting with patient actors, they also need time to imagine and play with medical artifacts and identities, get used to the segregation they feel from the lay world, and interact with physicians in a purely professional context. This is what the cadaver lab experience offers by virtue of its status as a liminal place: a place in between, where social roles are altered (Turner 1967); where cultural norms, identities and memories are narrated as part of the "normative landscape" (Gieryn 2000); and where students can play with the new identities they have access to (Ibarra and Petriglieri 2010) as they negotiate their relationship to their peers and their new profession.

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